Himanshu Vaghela

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EDUCATION

New York University, New York **Expected: May 2021**
Master of Science in Computer Science
Relevant Courses: Design & Analysis of Algorithms I, Principles of Database Systems, Introduction to Operating Systems.

D. J. Sanghvi College Of Engineering, University of Mumbai **May 2019**
Bachelor of Engineering in Computer Engineering
Relevant Courses: Artificial intelligence, Machine Learning, Computer Graphics, Data Structures, Analysis of Algorithms, Applied Mathematics, Operating Systems, Microprocessor, Software Engineering.

TECHNICAL SKILLS

- Programming Languages: Python, C, C++, Java, Latex.
- Libraries: Tensorflow, OpenCV, Scikit learn, numpy, pandas, Matplotlib, keras.
- Web Technologies: HTML, CSS, javascript, php.
- Databases: MySQL, SQLite.

RESEARCH PAPERS

Progressive Generative Adversarial Binary Networks for Music Generation (arxiv.org/abs/1903.04722) **March 2019**
- Published by Springer at International Conference on Innovative Computing and Communication (ICICC 2019).
- Incorporated progressive GANs in deep learning using dataset of piano-rolls in binary format to generate new and efficient music from existing data. Implemented using Tensorflow in Python.

MREAK : Morphological Retina Keypoint Descriptor (arxiv.org/abs/1901.08213) **March 2019**
- Published by IEEE at International Conference of Artificial Intelligence and Information Technology (ICAIIT) 2019 where respective chairman commented “interesting yet challenging topic” in manuscript review email and gave a 5/5 in quality of submission.
- Created a descriptor using Computer Vision which helps in detecting keypoints in images by implementing morphological operations like opening and closing in images and modifying the descriptor pattern of FREAK descriptor.
- Created a new module in OpenCV library.

Semi-supervised image to image translation (arxiv.org/abs/1901.08212) **March 2019**
- Published by IEEE at International Conference of Artificial Intelligence and Information Technology (ICAIIT) 2019.
- Designed an algorithm in Computer Vision using GANs (Generative Adversarial Networks) to create new images and transfer pattern of one image to another by adding a laplacian factor in the model resulting in better photorealism.
- Implemented using Tensorflow in Python.

Auto-Encoding Progressive GANs For 3D Multi Object Scenes (arxiv.org/abs/1903.03477) **March 2019**
- Published by IEEE at International Conference of Artificial Intelligence and Information Technology (ICAIIT) 2019.
- Incorporated progressive GANs (Generative Adversarial Networks) in 3D Computer vision to generate 3D Multi object scenes. Implemented using Tensorflow in Python.

ACADEMIC PROJECTS

Stock Price Prediction using trained weights (HTML, Javascript, php, Tensorflow, numpy, keras) **March 2019**
- Created smart algorithms in machine learning to predict buying and selling of stocks on the basis of Mutual Funds Analysis, Stock Trends Analysis and Prediction, Portfolio Risk Factor, Stock and Finance Market News, Sentiment Analysis and Selling profit ratio.

Wallstar Reality - Real Estate recommendation website (HTML, CSS, Javascript, php) **November 2018**
- Developed a website which helps user in selecting real estate as per their requirements.
- Implemented functionalities to filter search by selecting attributes like a specific area with certain price range as per user.

EXTRA CURRICULAR ACTIVITIES

- Completed a Mentorship Program conducted by Morgan Stanley. Learned applications of new algorithms in data structures and other trending technologies.
- Ranked in top 10 in India in ZS Case Challenge conducted by ZS associates where expertise of students in sales and marketing algorithms is tested.
- Cleared the AdWords Fundamental and Search Advertising exams offered by Google.
- MTA: HTML5 Application Development Fundamentals: Demonstrated core HTML5 client application development skills that will run on today's touch-enabled devices (PCs, tablets, and phones).